FISHERY RESEARCH

Job Performance Report

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ANNUAL PERFORMANCE REPORT

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Project 6. University Studies: Bull Trout Life History Investigations in the North Fork Clearwater River

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Project No. 6 Title: University Studies: Bull Trout Life History Investigations in the North Fork Clearwater River

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ABSTRACT

Little information is available on bull trout *Salvelinus confluentus* in the North Fork Clearwater River Drainage. This study utilizes radio telemetry techniques to document movements and utilization of bull trout in Dworshak Reservoir and the North Fork Clearwater River Drainage. From April to June 2001, we collected 111 bull trout, with 104 (93.7%) collected by hook-and-line sampling, and seven (6.3%) were collected by boat electrofishing. The majority of the bull trout, 82% (n=91), were captured at the slackwater interface between Dworshak Reservoir and the Little North Fork (LNF) or North Fork Clearwater (NFC) rivers, 18% (n=20) were captured within Dworshak Reservoir. Fork length of collected bull trout ranged from 227 to 609 mm (mean 363) and weighed ranged from 100 to 2250 g (mean 548) respectively. Radio transmitters were surgically implanted into 84 fish to document migration characteristics and identify spawning locations.

Seventy-three bull trout were detected after initial tagging. Eleven (15.1%) of these bull trout remained within the reservoir for the duration of the study period. We classified 62 bull trout as migratory and delineated them into seven subgroups based on their geographical distribution within the drainage. These subgroups are:

1. BFC, Breakfast and Floodwood creeks (7 tagged bull trout)
2. LNF, Little North Fork Clearwater River (28 tagged bull trout)
3. NF-M, North Fork Clearwater River mainstem (11 tagged bull trout)
4. NF-T, North Fork Clearwater River tributaries (4 tagged bull trout)
5. BC, Black Canyon of the North Fork Clearwater (2 tagged bull trout)
6. NF-U, headwaters of North Fork Clearwater River (8 tagged bull trout)
7. KCK, Kelly Creek (2 tagged bull trout)

Twenty-six of the 38 bull trout radio tagged in the NFC ascended the NFC, 5 ascended the LNF and 1 moved downstream to remain within Dworshak Reservoir, 6 tags were not detected after implantation. Thirteen of the15-bull trout radio tagged in the LNF ascended the LNF, one ascended BFC and one ascended the NFC. Ten of the 20-bull trout radio tagged in BFC ascended the LNF, 7 ascended BFC, and 2 moved downstream into Dworshak Reservoir, one NANO tag was never detected after implantation. Two of the 11-bull trout radio tagged in Dworshak Reservoir remained in the reservoir, 2 ascended the LNF, 3 ascended the NFC, and 4 were never detected. Three of the tags not detected were NANO tags and one was a CART

tag. We believe the undetected tags represented bull trout that also stayed in the reservoir but occupied depths that precluded detection.

Adult bull trout were documented to migrate as far as 130 km upstream of Dworshak Reservoir. Redd surveys were conducted on eleven tributaries and selected portions of the mainstem North Fork and Little North Fork Clearwater River. The highest densities of redds were observed in the upper North Fork and Little North Fork Clearwater Rivers.

In addition, Fisheries personnel collected westslope cutthroat genetic samples to determine introgression with introduced rainbow and Yellowstone cutthroat trout in native westslope cutthroat trout range.

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